

WHAT IS CLAIMED IS:

- 1                   1.     A device for insertion into a body lumen useful for dissolution of  
2 obstructive material, the device comprising:  
3                   a source of mechanical motion; and  
4                   an elongated member having a proximal portion, a distal portion, and an  
5 outer surface, and a longitudinal axis therebetween, wherein the proximal end is matingly  
6 engageable with the source of mechanical motion; and  
7                   an expandable member disposed on said elongate member distal portion.
- 1                   2.     A device of claim 1, wherein said expandable member is a balloon.
- 1                   3.     A device of claim 1, wherein said device further includes a second  
2 expandable member disposed on said elongate member proximal portion.
- 1                   4.     A device of claim 3, wherein said second expandable member is a  
2 balloon.
- 1                   5.     A device of claim 3, wherein said second expandable member is a  
2 filter.
- 1                   6.     A device of claim 1, wherein said expandable member is a filter  
2 trap.
- 1                   7.     A device of claim 1, further comprising a sleeve disposed coaxially  
2 over the elongate member, said sleeve having an inner surface and an outer surface such  
3 that the coaxial combination of said elongate member and said sleeve forms an annular  
4 space between said elongate member outer surface and said sleeve inner surface.
- 1                   8.     A device of claim 7, further comprising a means for aspirating,  
2 wherein annular space is in fluid communication with the means for aspirating.
- 1                   9.     A device of claim 1, wherein said elongate member has a lumen  
2 disposed between said elongate member distal end and said elongate member proximal  
3 end.
- 1                   10.    A device of claim 9, wherein said lumen is in fluid communication  
2 with an inlet port on the proximal end of the elongate member and an outlet port on the

3 distal end of the elongate member which is distal of said expandable member, wherein a  
4 filter element is disposed in said lumen.

1 11. A device of claim 1, wherein said source of mechanical motion  
2 provides rotational and/or translational motion.

1 12. A device for insertion into a body lumen useful for dissolution of  
2 obstructive material, the device comprising:  
3 a source of mechanical motion;  
4 an elongated member having a proximal portion, a distal portion, an outer  
5 surface, and a longitudinal axis therebetween, wherein the proximal end is matingly  
6 engageable with the source of mechanical motion; and  
7 an expandable member disposed on said elongate member proximal  
8 portion.

1 13. A device of claim 12, wherein said expandable member is a  
2 balloon.

1 14. A device of claim 12, wherein said device further includes a second  
2 expandable member disposed on said elongate member distal portion.

1 15. A device of claim 14, wherein said second expandable member is a  
2 balloon.

1 16. A device of claim 13, wherein said second expandable member is a  
2 filter.

1 17. A device of claim 12, wherein said expandable member is a filter  
2 trap.

1 18. A device of claim 12, further comprising a sleeve disposed  
2 coaxially over the elongate member, said sleeve having an inner surface and an outer  
3 surface such that the coaxial combination of said elongate member and said sleeve forms  
4 an annular space between said elongate member outer surface and said sleeve inner  
5 surface.

1 19. A device of claim 18, further comprising a means for aspirating,  
2 wherein said annular space is in fluid communication with the means for aspirating.

1 20. A device of claim 12, wherein said source of mechanical motion  
2 provides rotational and/or translational motion.

1 21. A device for insertion into a body lumen useful for dissolution of  
2 obstructive material, the device comprising:

3 a source of mechanical motion;

4 an elongated member having a proximal portion, a distal portion, an outer  
5 surface, and a longitudinal axis therebetween, wherein the proximal end is matingly  
6 engageable with the source of mechanical motion;

7 a sleeve disposed coaxially around said elongated member, said sleeve  
8 having an inner surface and an outer surface, such that said inner surface of said sleeve  
9 and said outer surface of said elongated member form an annular space; and

10 a mechanism for aspirating any dissolved obstructed material through said  
11 annular space for removal from said body lumen.

1 22. A device of claim 21, further comprising an expandable member  
2 disposed on the proximal portion thereof.

1 23. A device of claim 22, wherein said expandable member is a  
2 balloon.

1 24. A device of claim 20, wherein said expandable member is a filter.

1 25. A device of claim 22, further comprising a second expandable  
2 member on the distal portion thereof.

1 26. A device of claim 24, wherein said second expandable member is a  
2 balloon.

1 27. A device of claim 24, wherein said second expandable member is a  
2 filter.

1 28. A device of claim 21, wherein said source of mechanical motion  
2 provides rotational and/or translational motion.

1 29. A device for insertion into a body lumen useful for dissolution of  
2 obstructive material, the device comprising:

3 a source of mechanical motion;

4 an elongated member having a proximal portion, a distal portion and a  
5 longitudinal axis therebetween, and further comprising an outer surface and an inner  
6 lumen extending between said distal portion and said proximal portion, wherein said  
7 proximal portion is matingly engageable with the source of mechanical motion; and  
8 said elongated member including one or more fenestrations located along  
9 the said elongated member longitudinal axis and in fluid communication between said  
10 elongated member outer surface and said elongated member inner lumen.

1 30. A device of claim 29, further comprising means for aspirating fluid  
2 from within said body lumen, through said fenestrations to a location outside said body  
3 lumen.

1 31. A device of claim 29, further comprising an expandable member  
2 located on said elongated member distal portion.

1 32. A device of claim 31, wherein said expandable member is a filter  
2 trap.

1 33. A device of claim 31, wherein said expandable member is a  
2 balloon.

1 34. A device of claim 29, further comprising a second expandable  
2 member located on said elongated member proximal portion.

1 35. A device of claim 34, wherein said second expandable member is  
2 balloon.

1 36. A device of claim 34, wherein said expandable member is a filter  
2 trap.

1 37. A device of claim 29, wherein said source of mechanical motion  
2 provides rotational and/or translational motion.

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